ABSTRACT

A magnetic powder of an Sm-Fe-N alloy, which has a mean particle diameter of 0.5 to 10 μm, and either an average acicularity of 75% or above or an average sphericity of 78 % or above. The powder exhibits an extremely high residual magnetization and an extremely high coercive force, since particles characterized by the above acicularity or sphericity have particle diameters approximately equal to that of the single domain particle and nearly spherical particle shapes. The powder can be produced by preparing an Sm-Fe oxide by firing a coprecipitate corresponding to the oxide, mixing the obtained oxide with metallic calcium and subjecting the mixture to reduction/diffusion and nitriding successively.